Zhexuan Shan

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EDUCATION

The University of Texas at Arlington — Arlington, Tx
Master of Computer Science and Engineering — Sept|2019-May|2020
Beijing University of Post and Telecommunication — Beijing, China
Master of Computer Science and Engineering — Sept|2018-Sept|2019
Dalian University of Technology — Dalian, China
Bachelor of Chemical Industry — Sept|2014-Sept|2018

SKILLS

- Programming Language: Java, JavaScript, HTML, CSS, C++, Python
- Techniques: Bootstrap, Git
- Experience in Web development using Java and Node.js
- Experience in database design and development using MySQL

EXPERIENCE

Momenta.ai — Feb.2019-July.2019

Software Engineer Intern

- Collaborated in a team environment to produce a high definition map for auto driving cars
- Developed the basement library using Python for building a planet of the instance data
- Developed a front-basement library using Node.js that supports loading OSM(open street map) data to instance planet
- Developed an algorithm that using incremental way to set speed limit to the map that can handle nearly 90% of the real scene
- Developed inspection code to ensure data validity
- Developed an efficient algorithm to merge 95% of the different data in an incremental way
- Developed a program that supports searching and binding for nearby poles and signs in an instant data planet
- Developed unit tests to ensure complete code coverage

PROJECTS

High Definition Map Basement Library

- Developed a code library of the following supporting methods like merge points, separate points, distribute points, circular arrangement points, linear arrangement points, point and line combination, lines split, merge, reverse, simplify, separate, etc.
- Developed a basement library in Python to load OSM data to an instance planet: judging the parallel line, setting a new node or a line or polygon to the planet, modifying the elements of the planet.
- Developed unit tests and achieved 96% code coverage. This library is used by the entire team to process map features.
- Converted this library into node.js for front-end calls.

Program for incremental merge of data file

- Developed a program that can merge the data in an incremental way.
- Designed and implemented an efficient algorithm by constructing the relationships that can merge data files of multiple task flows in an incremental way to merge.
- Reduced the time spent to 30% of the former.

Data Elemental analysis and inspect

- Used to inspect the topological and validation of the data
- Developed a Flask framework to display the results through the front end.
- Improved parts of the code and made unit test for the code and regression tests after each iteration.
- Reduce the rate of the false positive from 8% to 1%